LED Emitter | 650 nm | AlInGaP/GaAs | PLCC4 (2020)
ELP-650-492-1XX-2

Prototype

Features
- 100 μm / 150 μm Point Source
- Radiation 650 nm (Red)
- Black Package
- High Efficiency
- Long Lifetime

Pat. US 8847241 B2

Applications
- Light Barriers
- Fiber Optics
- Industrial Sensors

Lead (Pb) Free Product – RoHS Compliant
### Parameters

#### Design Variant

- **Point Diameter [µm]**: PLCC Package

#### Typical Wavelength λₚ

- 650 nm

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### Maximum Ratings

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iₚ</td>
<td>20</td>
<td>mA</td>
</tr>
<tr>
<td>Iₚ</td>
<td>30</td>
<td>mA</td>
</tr>
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</table>

- **Tₜₜ = 25°C, unless otherwise specified**

### Optical / Electrical Characteristics

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Vᵣ</td>
<td>1.9</td>
<td>2.5</td>
<td></td>
<td>V</td>
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<td>Vᵣ</td>
<td>5</td>
<td>1</td>
<td>1.4</td>
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<td>0.55</td>
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<td>650</td>
<td>660</td>
<td>nm</td>
</tr>
<tr>
<td>λₚ</td>
<td>650</td>
<td>650</td>
<td>660</td>
<td>nm</td>
</tr>
<tr>
<td>λₚ / λₚ</td>
<td>0.5/15</td>
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<td>nm</td>
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<tr>
<td>D / tᵣ</td>
<td>10/10</td>
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</table>

- **Tₜₜ = 25°C, unless otherwise specified**

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### Contained Products

- ELC-650-492-100-2
- ELC-650-492-150-2
ELP-650-492-1XX-2 | 650 nm | PLCC4 (2020)

Parameters

Forward Voltage vs. Forward Current (typical)

Radiant Intensity vs. Forward Current (typical)

Spectral Power Distribution (typical)

Ambient Temperature vs. Maximal Forward Current

Forward Voltage [V]
Forward Current [mA]

Radiant Intensity [normalised]
Forward Current [mA]

Intensity [normalised]
Wavelength [nm]

Max. Forward Current [normalised]
Ambient Temperature [°C]
**Mechanical Dimensions**

**Component**

Dimensions specified in **mm**

**Chip**

**100-1**

Dimensions specified in **µm**

**150-1**
IR Reflow Soldering Profile for Lead Free Soldering

- Temperature [°C]:
  - 240 °C
  - 217 °C
  - 245 °C

- Time [s]:
  - max. ramp up 3 °C/s
  - max. ramp down 6 °C/s
  - max. 120 s
  - max. 100 s
  - 240 °C
  - 217 °C

- Recommended Solder Pad

  - Dimensions specified in mm

according to JEDEC J-STD-020D
Dimensions conform to IEC 60286-3, EIA 481-D

| Ao  | 2.40 +/- 0.1 |
| Do  | 2.40 +/- 0.1 |
| ka | 1.20 +/- 0.1 |
| F  | 3.50 +/- 0.05 |
| P1 | 4.00 +/- 0.1 |
| V  | 8.00 +/- 0.1 |

1. Measured from centreline of sprocket hole to centreline of pocket.
2. Cumulative tolerance of 18 sprocket holes is +/- 100 μ.
3. Measured from centreline of sprocket hole to centreline of pocket.

All dimensions in millimetres unless otherwise stated.

Leader: min.400
Trailer: min.160

All dimensions in mm unless otherwise stated.
Packing

<table>
<thead>
<tr>
<th>Storage on Carrier Tape</th>
<th>Symbol</th>
<th>Min</th>
<th>Max</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Storage Temperature</td>
<td>$T_{STG}$</td>
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<td>40</td>
<td>°C</td>
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<tr>
<td>Storage Relative Humidity</td>
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<td>% RH</td>
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<td>Storage Time</td>
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**Labeling**

Manufacturer: Jenoptik Optical Systems GmbH
Type: EL9-650-492-1XX-2
Item No.: XXXXXX
Charge: XXXXX
Date: dd.mm.yyyy
Quantity: XXXX pcs.
ELP-650-492-1XX-2 | 650 nm | PLCC4 (2020)
General Information

Attention
Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. For further information, please contact our sales department.

Handling
LEDs have to be handled ESD sensitive.

Safety Advice*
The evaluation of eye safety occurs according to the standard CIE/IEC 62471:2006 (“Photobiological Safety of Lamps and Lamp Systems”). Within the risk grouping system of this CIE standard the LED in this data sheet is assigned into the Group 1 – Low Risk.

*Note: Safety classification of an optical component mainly depends on the intended application and the way the component is being used. Furthermore, all statements made to classification are based on calculations and are only valid for this LED “as it is”, and at continuous operation, assuming direct view and maximum forward current. Using pulsed current or altering the light beam with additional optics may lead to different safety classifications. Therefore these remarks should be taken as recommendation and guideline only.